



Docket 81745JJH
Customer No. 01333

THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED
JUN 02 2003
TC 1700

In re Application of:
Didier J. Martin

Group Art Unit: 1723

Examiner: Krishnan S. Menon

METOD FOR RECYCLING WASH-
WATER RESULTING FROM FILM
TREATME NT

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Serial No. 10/044,099

June P. Carfagna
June P. Carfagna
May 28, 2003
Date

Filed January 10, 2002

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Transmitted herewith is an amendment in the above-identified application:

- ☒ No additional fee is required.
☐ The fee has been calculated as shown below:

	(Col. 1)		(Col. 2)	(Col. 3)	OTHER THAN A SMALL ENTITY	
	CLAIMS REMAINING AFTER AMENDMENT		* HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE
TOTAL	10	MINUS	20	0	X 18	\$ 0
INDEP	1	MINUS	3	0	X 84	\$ 0
<input type="checkbox"/>	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				+ 280	\$ 0
					TOTAL	\$ 0

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☒ Any additional filing fees required under 37 CFR 1.16.

☒ Any patent application processing fees under 37 CFR 1.17.

(For Extensions of Time and other Petitions to the Assistant Commissioner)

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In re Application of:

Didier MARTIN

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Examiner: MENON, KRISHNAN S.

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REQUEST FOR RECONSIDERATION UNDER 35 U.S.C. 103

Sir:

In response to the Office Action mailed March 3, 2003, please reconsider the rejection in view of the following arguments.

Rejection Under 35 U.S.C. 103

Claims 1-8 have been rejected as unpatentable over Mir (US 4,353,715) in view of Applicant's own admission of commercial product and brochure from Rhodia Orelis. This rejection is respectfully traversed.

Applicant claims a method of recycling wash-water resulting from the treatment of a film provided with a carbon particles based backing layer. After having played its antihalation protection part, the backing layer is passed through a prebath in which it is sufficiently softened and is removed by rinsing in a first wash tank. The wash-water is charged with carbon particles. These carbon particles have to have been removed in order to reuse the wash-water with no impact on the film's sensitometric characteristics and without damaging the filtering material used. According to the invention, said wash-water charged with carbon particles is passed through an ultrafiltration unit equipped with a

hydrophilic ultrafiltration membrane whose surface is electrically charged, wherein a permeate is obtained and wash-water free of said carbon particles is obtained in said permeate. The obtained wash-water is recycled and used to resupply the wash-tank with water. The invention enables 100% reuse of the recycled water without the extra addition of fresh water.

According to the Examiner, Mir teaches a method of recycling wash water from paint booths containing carbon particles.

The Applicant respectfully traverses this analysis.

According to the Applicant, what Mir discloses is a method for removing solvents from solvent-laden gases comprising the steps of:

- intimately contacting and scrubbing the solvent-laden gases with an aqueous multiple-phase scrubbing media, which comprises a surfactant-dispersed activated carbon particles which particles adsorb the solvent from the solvent-laden gases
- concentrating the solvent-rich scrubbing media in a ultrafiltration-membrane unit to provide a concentrated solvent-rich scrubbing media in the feed zone and permeate water
- heating the concentrated solvent-rich scrubbing media to remove the solvent from the activated carbon particles to form a solvent vapor and recovering the solvent vapor.

It means that in Mir, the activated carbon particles are intentionally added in the scrubbing media in order to adsorb the solvents and are not present *in situ* in the gases to be treated. The solvents combined with carbon particles are therefore retained in the feed zone. So in Mir, the carbon particles are intentionally added for the cleaning up of the media to be treated but are not to be considered as a source of pollution to be removed.

A key point of Applicant's method is that the carbon particles are to be removed and are not added intentionally. The problem solved by the Applicant's invention is not the removal of volatile vapor solvents from a solvent-laden air stream but the removal of carbon particles, caused by the removal of the backing

layer passed through a prebath and rinsed by water jets, wherein this backing layer is used on cine films as antihalation layer.

Therefore, a skilled person, who manufactures cine films, who has the problem to remove the carbon particles from the wash-water would have no reason and no motivation to consider the prior art relating to the removal of volatile vapor solvents from a solvent-laden air stream, such as paint-spray booths. Applicant respectfully considers that the cited prior art is in a nonanalogous field.

Moreover, the skilled person has no motivation to use the method described in Mir in order to solve his problem, since the Mir's method describes the adding of activated carbon particles in the media to be treated when, on the contrary, he wishes to remove these carbon particles from the water to be treated.

Moreover, Mir teaches that the ultrafiltration unit contains a membrane of known material, such as from example, cellulose acetate or other polymeric material adapted. So Mir provides no specific motivation for the use of hydrophilic membrane. Nothing is described on the specific use of only **hydrophilic** ultrafiltration membranes having an electrically charged surface.

According to the Examiner, it would be obvious to one of ordinary skill in the art to use the membrane of Rhodia Orelis for the process as taught by Mir because the membrane is "well suited for industrial processes including paint and waste water treatment" according to Rhodia Orelis brochure.

This position in the Office action is clearly wrong.

First, the brochure of Rhodia Orelis describes that the plate and frame modules incorporating IRIS organic membranes are well suited to many industrial processes including automotive paint and waste water treatment and that these IRIS membranes are made in polyethersulphone (PES), polyvinylidene fluoride (PVDF) and acrylonitrile copolymers (A). These membranes in PES, PVDF, A are on the same page and nothing is described for a specific use with a specific membrane. It seems that they can be used for the same applications, without distinction between hydrophilic and hydrophobic membranes. Rhodia Orelis brochure provides no specific motivation for the use of hydrophilic membranes.

Furthermore, according to *Handbook of Industrial Membranes* published by Elsevier Advanced Technology (see copy enclosed), the skilled person has no motivation to use in Mir's method the hydrophilic membranes disclosed in Rhodia Orelis brochure since acrylate and cellulose acetate materials are known to be not recommended for use with solvents, such as acetone, benzene, MEK, toluene, xylene, etc. Therefore, the skilled person will be motivated to use in Mir's method a hydrophobic membrane in PES or PVDF.

But the results in Table III in the specification show unexpectedly that only hydrophilic membranes having an electrically charged membrane surface enable very high flows to be obtained with a low pressure and a relatively low molecular weight cut-off. Table V shows that with hydrophobic membranes, a very significant deposit of carbon particles was observed. So the hydrophobic membranes cause fouling of the pores and are not interesting for the treatment of wash-water containing carbon particles. So it is not obvious that the membranes have the same selectivity with carbon particles.

Therefore, neither Mir nor Rhodia Orelis brochure teaches the specific choice of hydrophilic membranes having an electrically charged membrane surface in order to remove carbon particles from wash-water resulting from the treatment of a cine film.

In view of the foregoing, it is believed that none of the references, taken in combination, disclose the claimed invention.

Claim 9 has been rejected as unpatentable over Mir (US 4,353,715) in view of Applicant's own admission of commercial product and Yamada (US 6,277,209). This rejection is respectfully traversed.


As Applicant believes that Mir and his own admission taken in combination doesn't disclose the invention, the combination of both with Yamada doesn't disclose the invention.

Claim 10 has been rejected as unpatentable over Mir (US 4,353,715) in view of Applicant's own admission of commercial product and Hilgren (US 4,692,251) and Olsen (US 6,315,130). This rejection is respectfully traversed.

As Applicant believes that Mir and his own admission taken in combination doesn't disclose the invention, the combination of both with Hilgren and Olsen doesn't disclose the invention.

In view of the foregoing comments, the Applicant believes that the unpatentability rejection under 35 U.S.C. 103 over all of the cited art is improper. Applicant respectfully requests withdrawal of the rejection. Early action to that end is earnestly solicited.

Respectfully submitted,



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